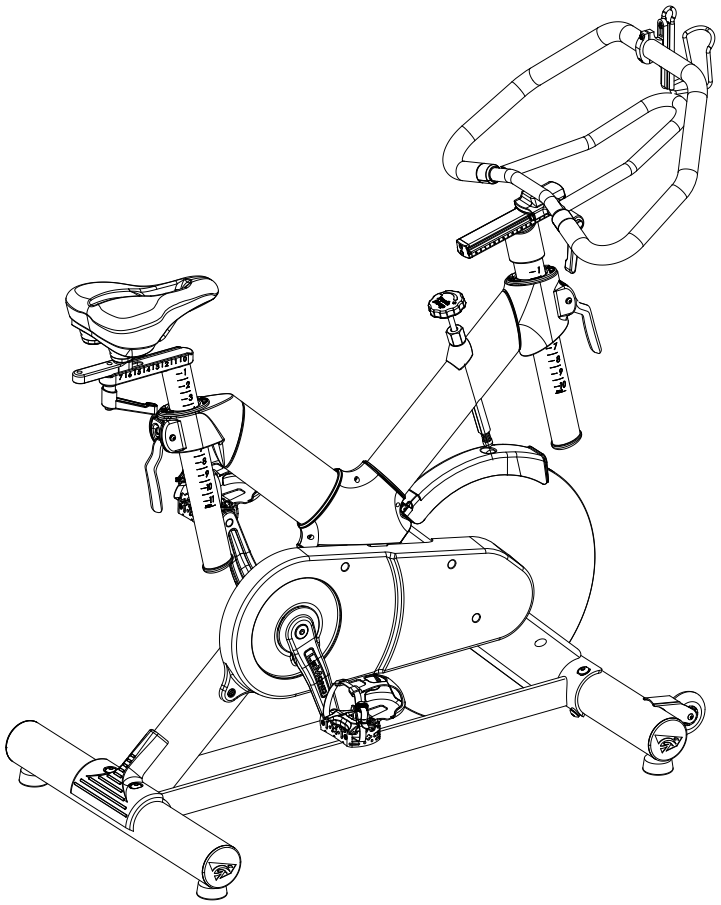
LeMond Fitness Inc.

SERVICE MANUAL



LeMond RevMaster™

For Lemond Exercise Bikes, Models:

15100, 15200, 15300, and15400,

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EXPLODED DIAGRAMS

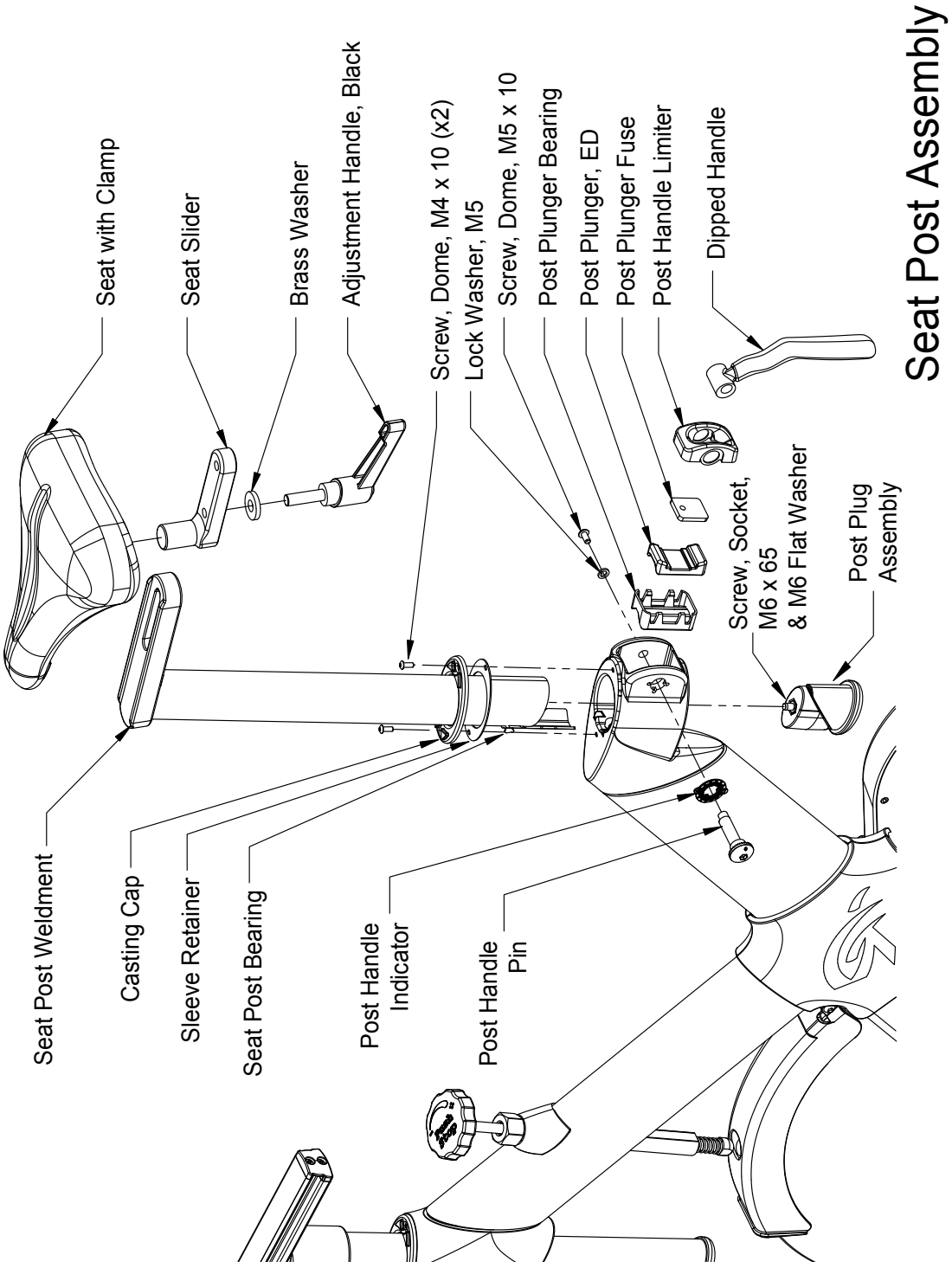


Figure 1.

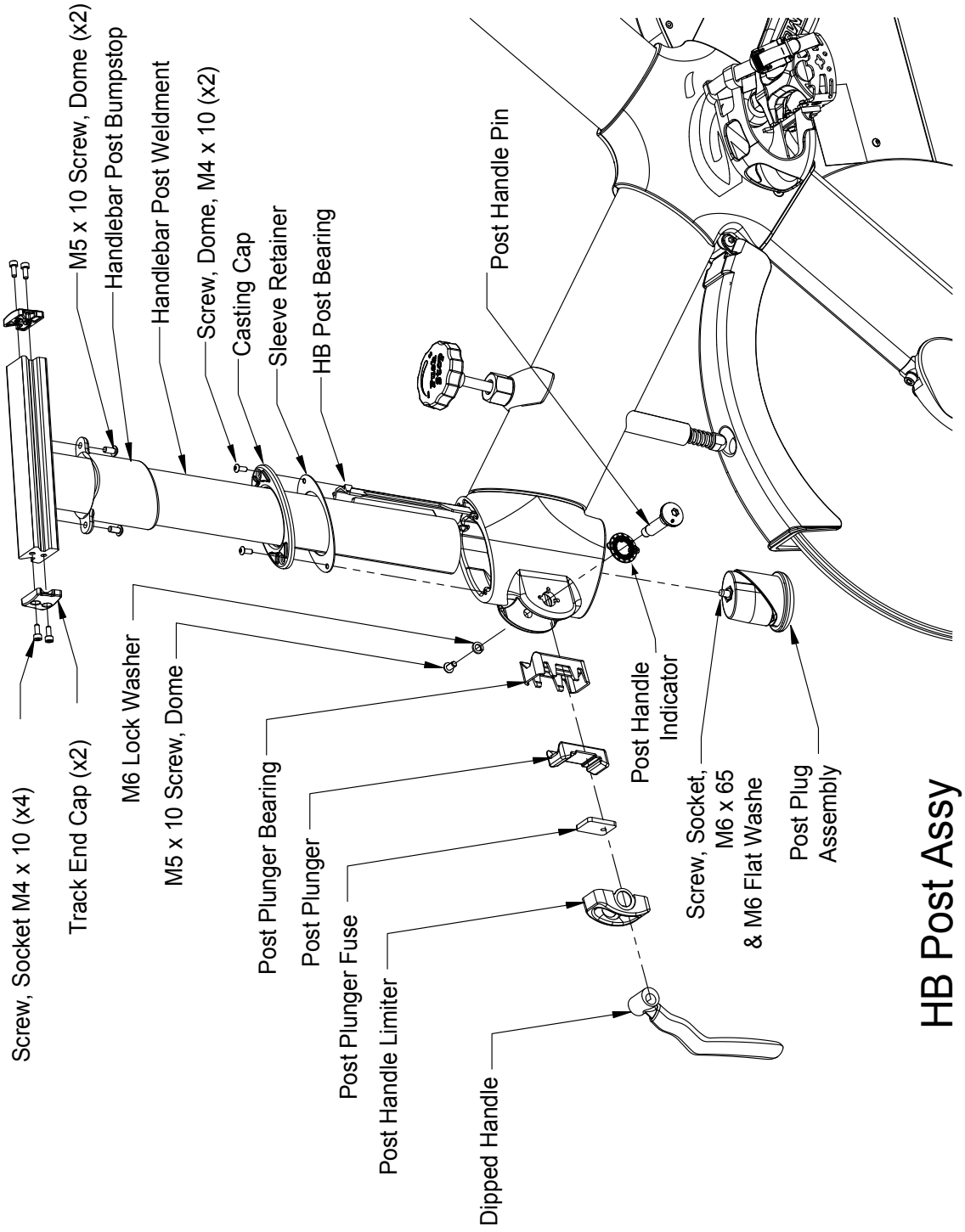

Screw, Socket M4 x 10 (x4)
Track End Cap (x2)
M6 Lock Washer
M5 x 10 Screw, Dome
Post Plunger Bearing
Post Plunger
Post Plunger Fuse
Post Handle Limiter
Dipped Handle
M5 x 10 Screw, Dome (x2)
Handlebar Post Bumpstop
Handlebar Post Weldment
Screw, Dome, M4 x 10 (x2)
Casting Cap
Sleeve Retainer
HB Post Bearing
Post Handle Pin
Post Handle Indicator
Screw, Socket, M6 x 65 & M6 Flat Washe
Post Plug Assembly
HB Post Assy

Figure 2.

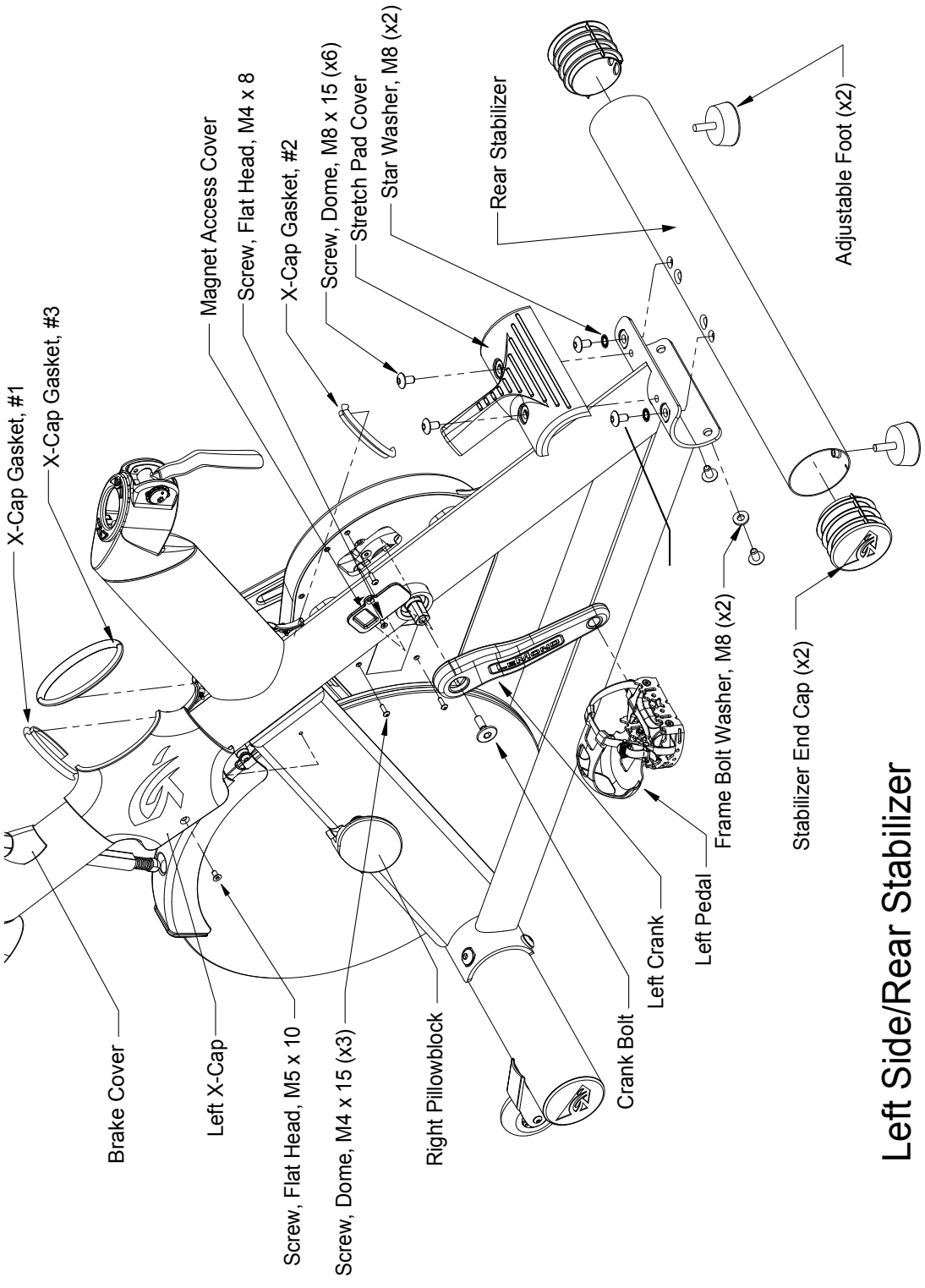

X-Cap Gasket, #1
X-Cap Gasket, #3
Magnet Access Cover
Screw, Flat Head, M4 x 8
X-Cap Gasket, #2
Screw, Dome, M8 x 15 (x6)
Stretch Pad Cover
Star Washer, M8 (x2)
Rear Stabilizer
Adjustable Foot (x2)
Brake Cover
Left X-Cap
Screw, Flat Head, M5 x 10
Screw, Dome, M4 x 15 (x3)
Right Pillowblock
Crank Bolt
Left Crank
Left Pedal
Frame Bolt Washer, M8 (x2)
Stabilizer End Cap (x2)
Left Side/Rear Stabilizer

Figure 3.

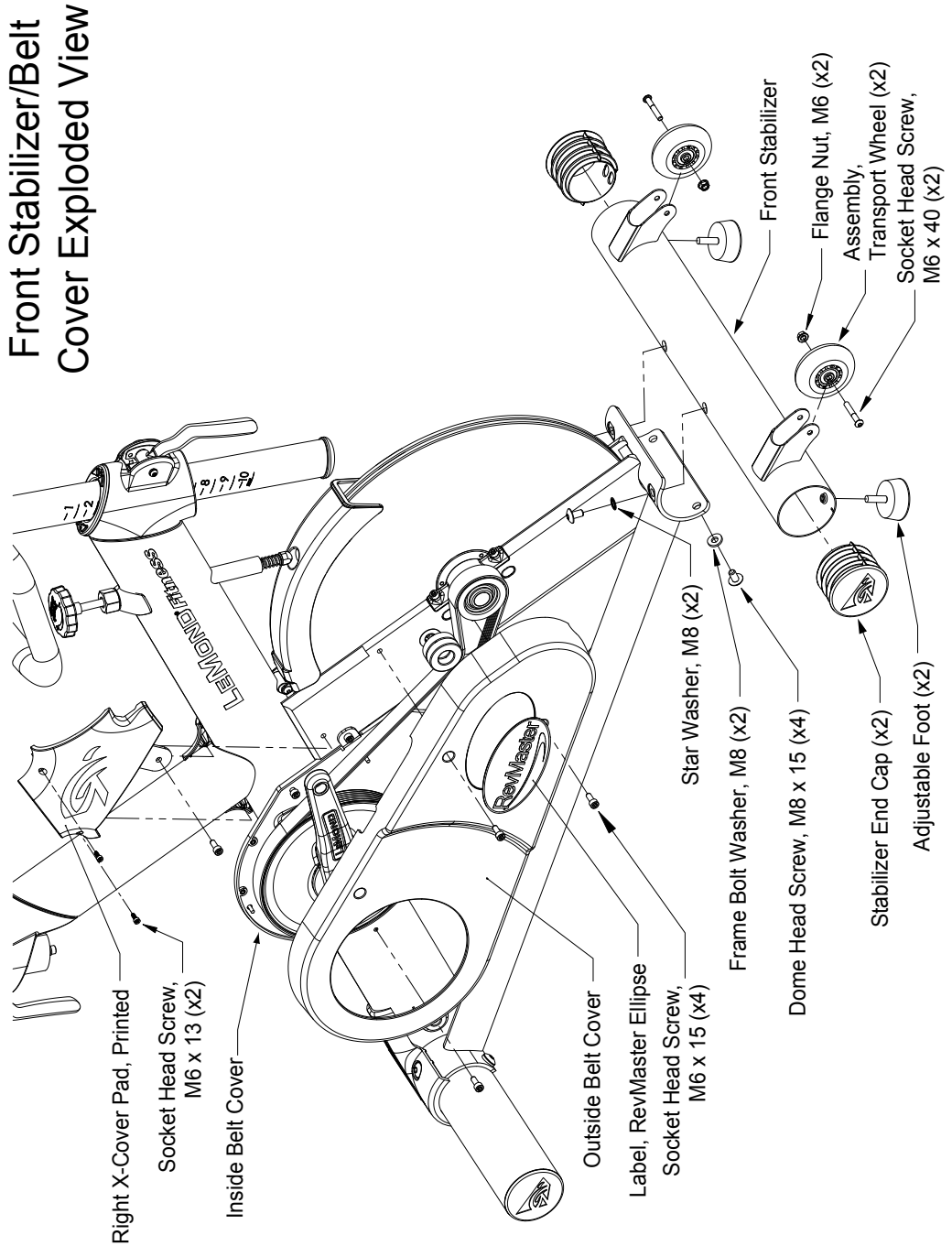

Front Stabilizer/Belt
Cover Exploded View
Right X-Cover Pad, Printed
Socket Head Screw,
M6 x 13 (x2)
Inside Belt Cover
Outside Belt Cover
Label, RevMaster Ellipse
Socket Head Screw,
M6 x 15 (x4)
Star Washer, M8 (x2)
Frame Bolt Washer, M8 (x2)
Dome Head Screw, M8 x 15 (x4)
Stabilizer End Cap (x2)
Adjustable Foot (x2)
Front Stabilizer
Flange Nut, M6 (x2)
Assembly,
Transport Wheel (x2)
Socket Head Screw,
M6 x 40 (x2)
LEMOND Fitness
RevMaster

Figure 4.

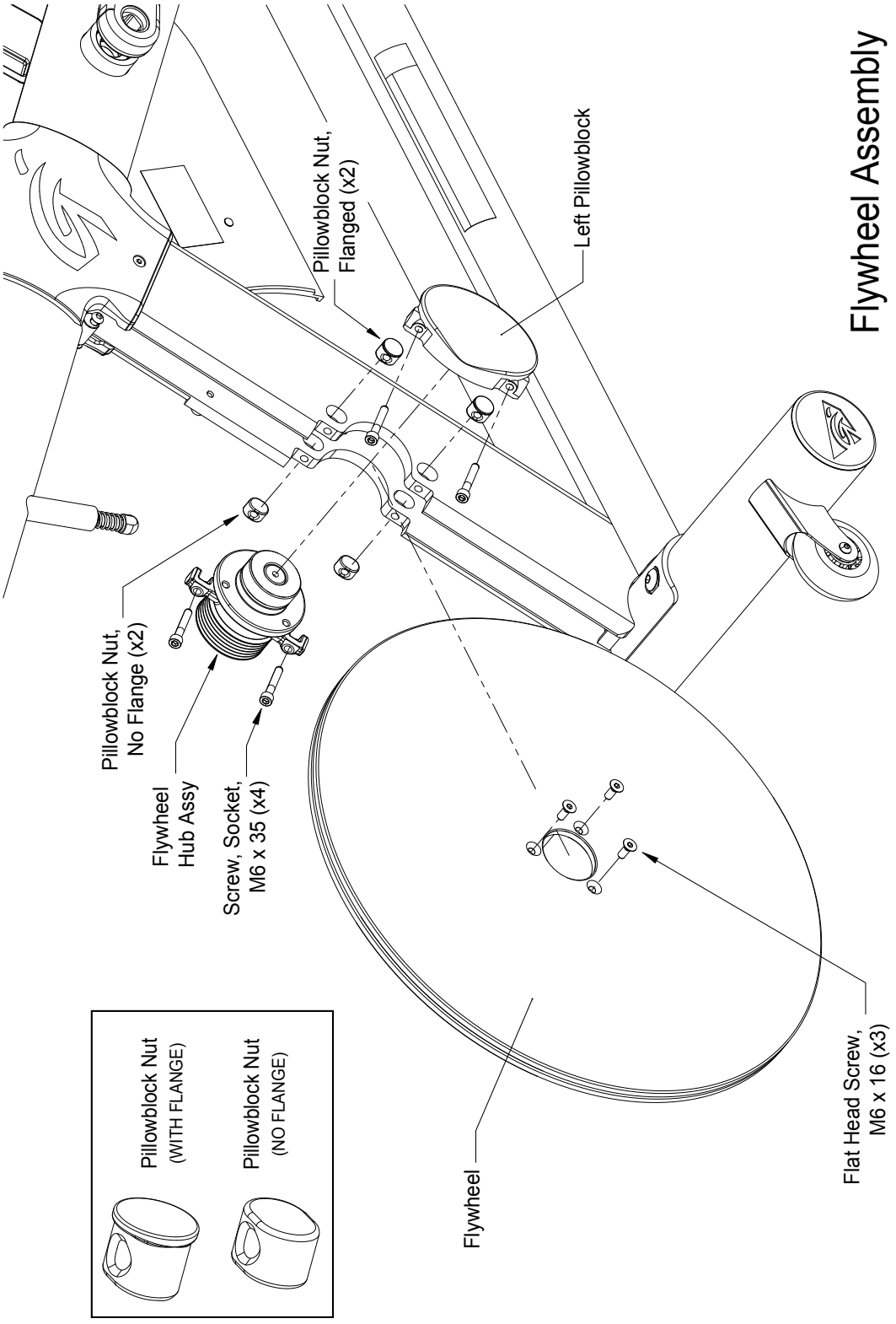

Flywheel Assembly
Pillowblock Nut, Flanged (x2)
Left Pillowblock
Pillowblock Nut, No Flange (x2)
Flywheel Hub Assy
Screw, Socket, M6 x 35 (x4)
Flywheel
Flat Head Screw, M6 x 16 (x3)
Pillowblock Nut (WITH FLANGE)
Pillowblock Nut (NO FLANGE)

Figure 5.

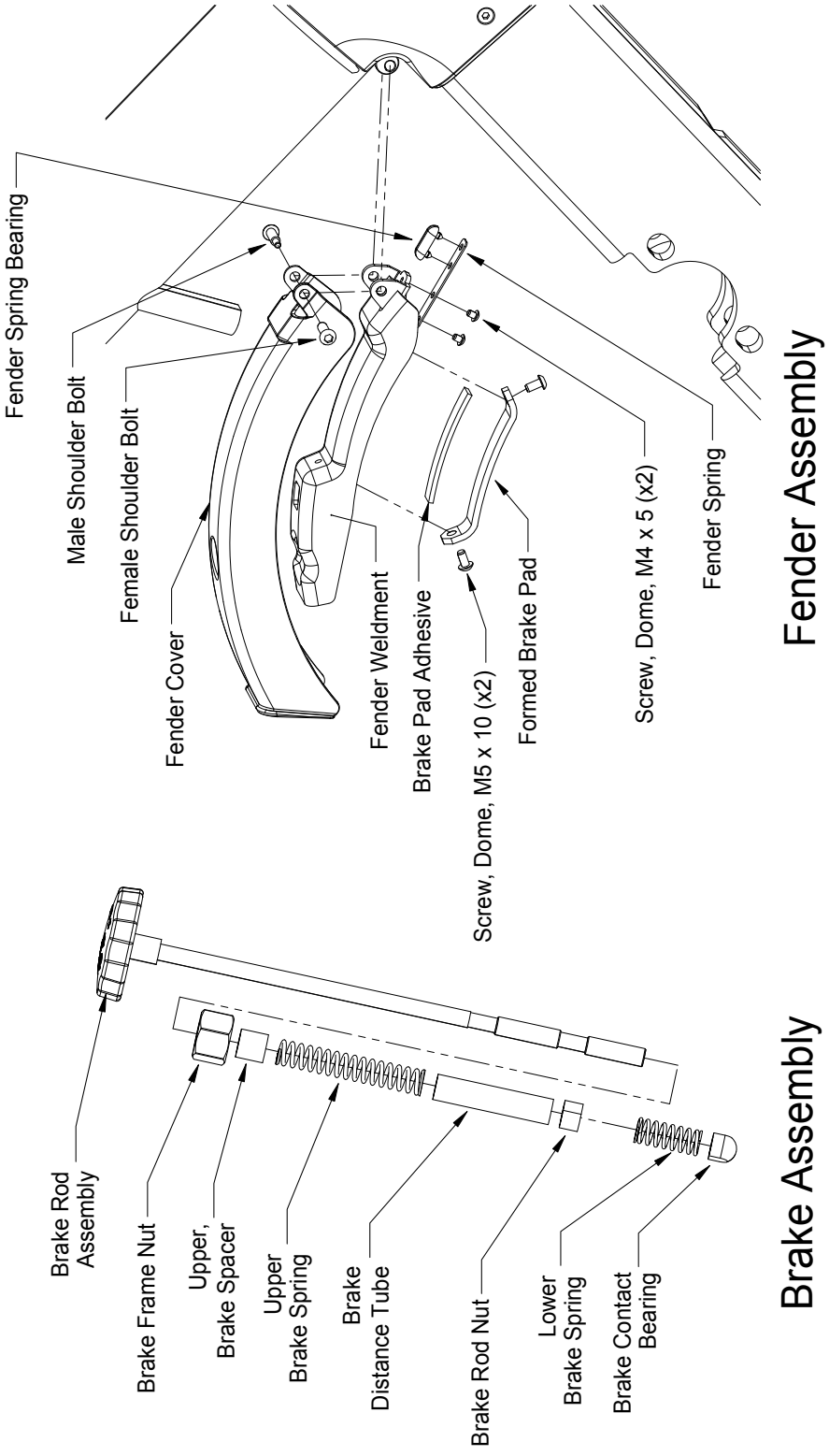

Fender Spring Bearing
Male Shoulder Bolt
Female Shoulder Bolt
Fender Cover
Fender Weldment
Brake Pad Adhesive
Screw, Dome, M5 x 10 (x2)
Formed Brake Pad
Screw, Dome, M4 x 5 (x2)
Fender Spring
Fender Assembly
Brake Rod Assembly
Brake Frame Nut
Upper, Brake Spacer
Upper Brake Spring
Brake Distance Tube
Brake Rod Nut
Lower Brake Spring
Brake Contact Bearing
Brake Assembly

Figure 6.

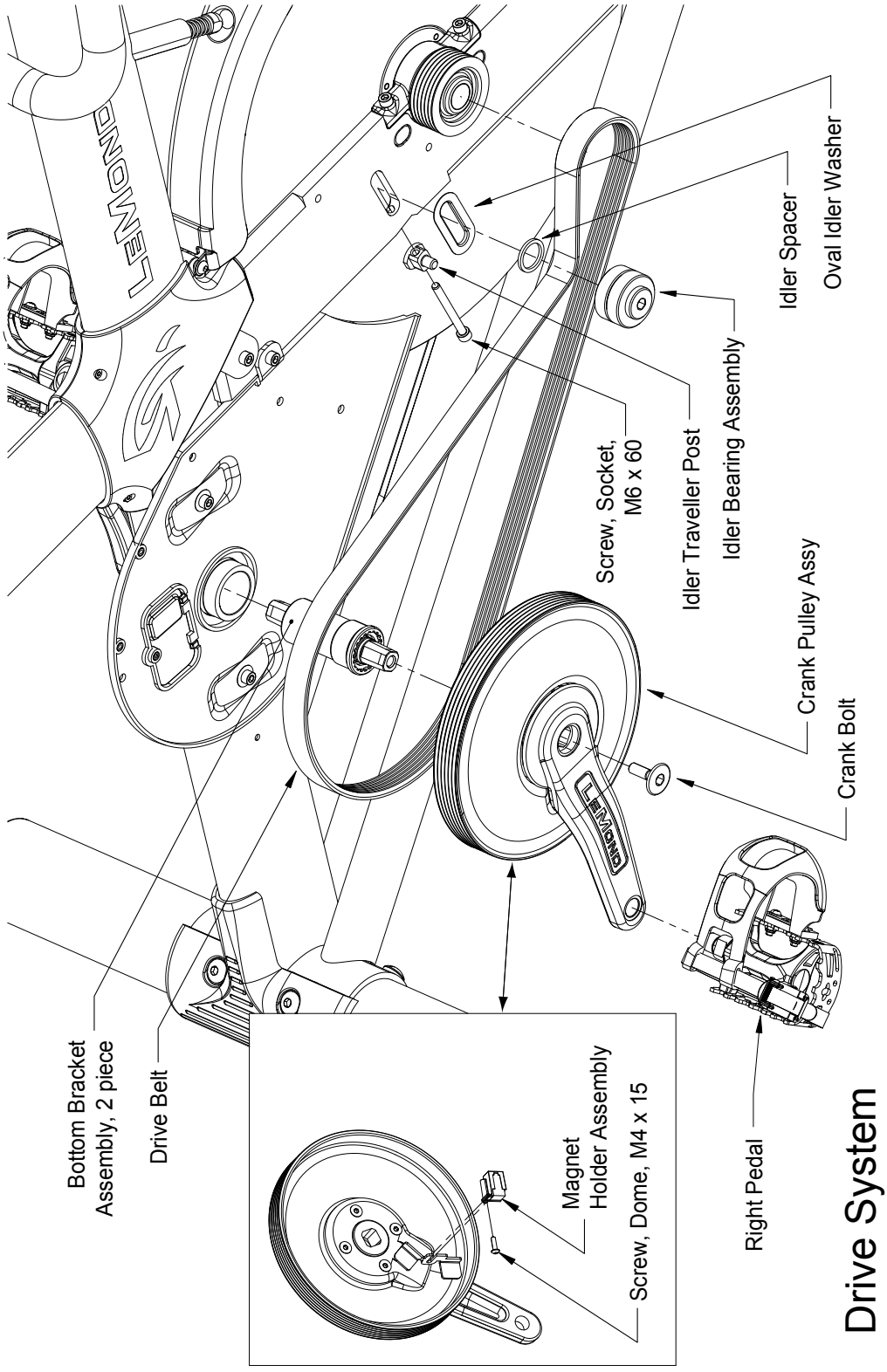

Oval Idler Washer
Idler Spacer
Idler Bearing Assembly
Idler Traveller Post
Screw, Socket, M6 x 60
Crank Pulley Assy
Crank Bolt
Right Pedal
Magnet Holder Assembly
Screw, Dome, M4 x 15
Bottom Bracket Assembly, 2 piece
Drive Belt
Drive System

Figure 7.

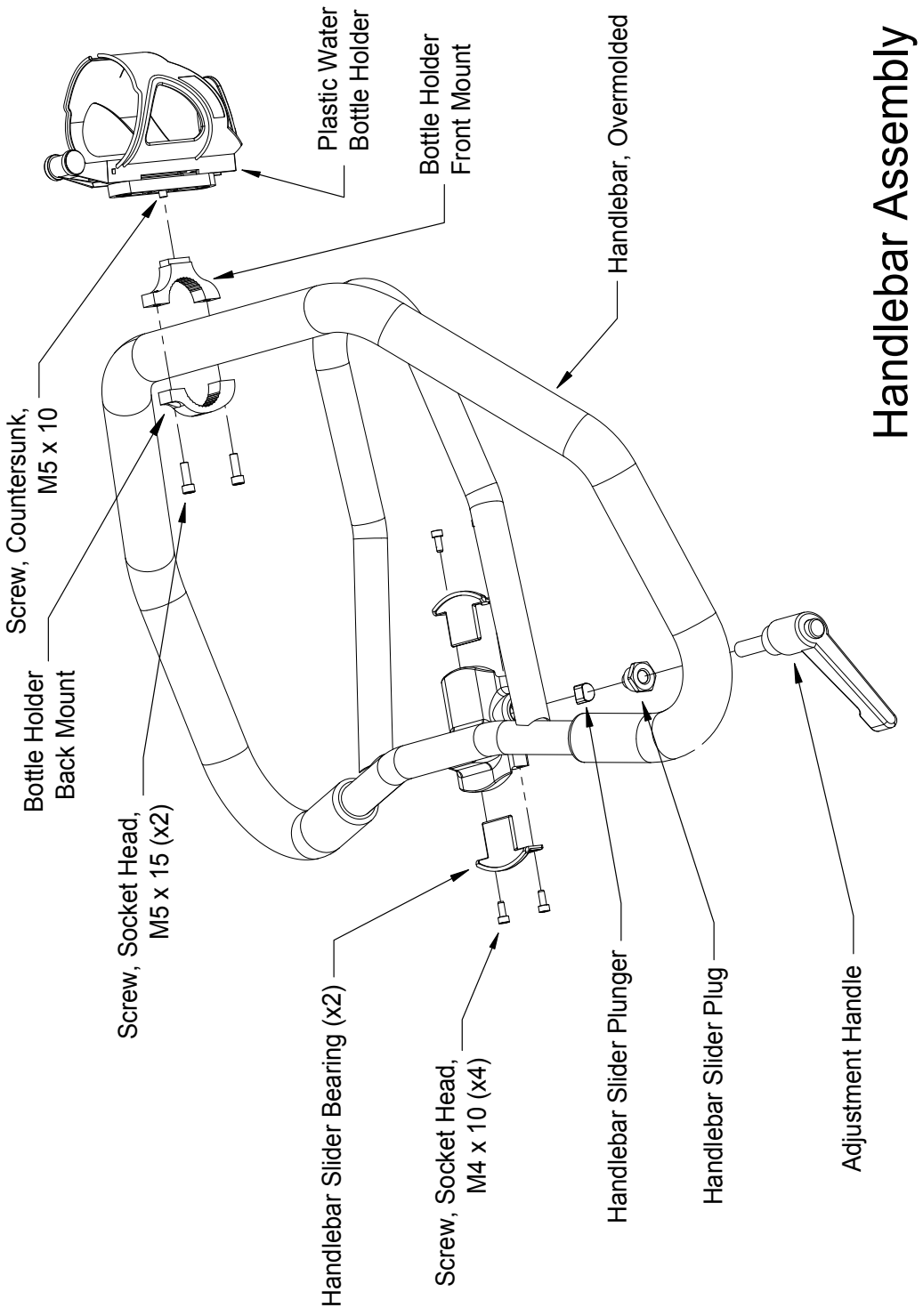

Handlebar Assembly
Plastic Water Bottle Holder
Bottle Holder Front Mount
Handlebar, Overmolded
Screw, Countersunk, M5 x 10
Bottle Holder Back Mount
Screw, Socket Head, M5 x 15 (x2)
Handlebar Slider Bearing (x2)
Screw, Socket Head, M4 x 10 (x4)
Handlebar Slider Plunger
Handlebar Slider Plug
Adjustment Handle

Figure 8.

TOOL LIST

ASSEMBLY TOOLS INCLUDED WITH BIKE:

Tool	Where Used
3-mm Hex key	Used for: H2O bottle mounting screw (mounts the cage to the handlebar clamp), and handlebar track cap
6 mm Hwx Key	Used for: front and rear stabilizer mounting bolts
15 mm Open End Wrench	Left and Right Pedals

ADDITIONAL TOOLS REQUIRED FOR SERVICE:

Tool	Where Used
Crank Puller	Pull crank arm off spindle after removing the crank arm bolts.
Bottom Bracket Socket (Shimano®)	Bottom Bracket
Socket / Torque Wrench	Bottom Bracket Socket
8-mm Hex key	Crank Bolts
Locktite 242/243 (blue)	To secure Bottom Bracket
Belt Tension Gauge	Measure drive belt tension
Metric Hex Key Set	4mm, 5mm

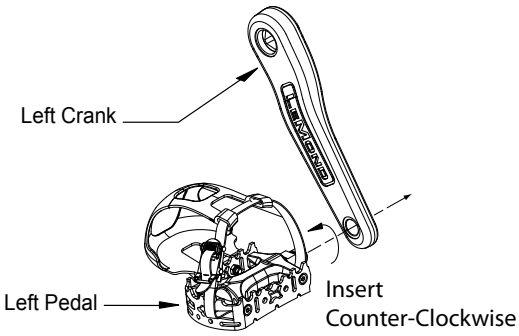
INSTALLATION CHECK LIST

STABILIZER BARS

Check that the mounting screws, four M8 x 20 screws attach the front stabilizer bar to the frame, and four more attach the rear stabilizer, are properly aligned (not cross threaded) and use the correct washers. Check that the top mounting screws use an M8 star washer, and that the bottom mounting screws use a curved washer, with the concave surface facing the stabilizer. Check that the screws are securely tightened.

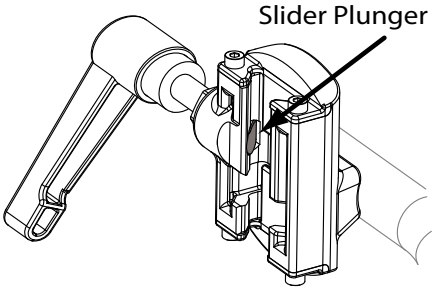
PEDALS

Check that the pedals are not cross threaded into the crank arms. The right pedal has a normal thread pattern (clockwise to tighten, counter-clockwise to loosen), and left pedal has a reverse thread pattern (counter-clockwise to tighten, etc.). When installing the pedals, use your fingers to start the pedal so you can feel if you are cross threading them into the crank arms. Use a 15mm box end wrench to tighten the pedals after you have installed them finger tight.



HANDLEBAR

When the handlebar is installed, the slider plunger (see figure below) may become dislodged. If this happened during assembly, the adjustment lever alone will not provide a sufficient grip to secure the handlebar to the mounting track; if threaded up against the mounting track, it could damaging the track.



If the slider plunger is missing, see Handlebar Adjustment and Assembly below for instructions on replacing the slider plunger and installing the handlebar.

SEAT SLIDER

Ensure that the large brass washer is installed on the adjutment handle attaching the seat slider to the seat post. (See Figure 1.) Apply a small amount of grease to the threads to allow adjustments.

WATER BOTTLE HOLDER

The water bottle holder is attached with an M5 countersunk screw to the bottle holder front mount. If the bottle holder is not already attached, remove one of the one of the M5 countersunk screws from the front mount with a 3mm hex wrench and use it to attach the bottle holder to the bracket.

MAINTENANCE SCHEDULE

PART	RECOMMENDED ACTION	FREQUENCY	CLEANER	LUBRICANT
[1] Pedals	Ensure that the pedals are tight in crank arms; that all screws on pedals are tight; and that the pedal straps are not frayed	Before each use	N/A	N/A
Frame	Wipe down	Daily	Soap & water; or, diluted non-abrasive cleaning solution	N/A
Flywheel	Wipe down	Weekly	WD-40® spray. Spray on rag & apply light coat to sides of flywheel.	N/A
Crank Bolts	Inspect for looseness	Weekly	N/A	If loose, remove bolt, apply Loctite® 242 on bolt threads and reinstall. Tighten to 48 ft-lbs or 575 in-lbs
Brake Pad	Inspect for excessive wear or a dry leather brake pad	Weekly	N/A	[2] Use 3-IN-One® oil or 10W oil *Do not use silicone-based lubricants
Belt	Inspect for correct tension; replace cracked, frayed, or otherwise non-uniform belt	Monthly	N/A	N/A
Bottom Bracket	Inspect for side-to-side play in spindle, and a grinding feeling in crank area when pedaling. If necessary, replace bottom bracket.	Monthly	N/A	N/A

)

1. We do not recommend you attempt to service the internal parts of the pedals. If they are found to be worn internally, we recommend replacing the pedal.

2. Use of lubricants or cleaning solutions other than those so specified will result in diminished performance and a shorter life span for that part.

TROUBLE SHOOTING

SYMPTOM: Seat or handlebar post move after locked into position.

1. Locate smaller 3mm hex bolt at pivot point of cam handle and loosen 1 turn.
2. Disengage 6mm hex bolt on other side from indicator plate and rotate one notch towards (+) sign.
3. Tighten smaller 3mm hex bolt.
4. Test post and repeat process if needed until post no longer moves.

SYMPTOM: Clicking noise with each pedal revolution.

1. Check shoelaces to make sure the aglet is not tapping the bike as the pedals turn.
2. Assure pedal straps are tight and that no excess strap on inner part of pedal is catching on the crank arm as it turns.
3. Assure that pedals are tight on crank arms.

SYMPTOM: Clicking noise when flywheel rotates.

1. Check edge of flywheel that brake pad rubs against for small burrs.
2. If burr is present gently remove while being careful not to damage flywheel surface.
3. If symptom persists check for noisy flywheel bearings.
4. If flywheel bearings are noisy or rough have authorized service technician replace flywheel hub assembly.

SYMPTOM: Drive belt is slipping.

1. Remove belt cover.
   Note: *Use caution around belt when cover is removed.*
2. Loosen idler with 8mm hex and tighten tensioner bolt 2-3 turns with 5mm hex wrench.
3. Tighten idler and test belt.
4. If belt still slips repeat process until belt no longer slips.
5. Reinstall belt cover.

SYMPTOM: Knocking noise or play felt in pedals/cranks.

1. Make sure pedals are tight on crank arms.
   Note: *Left pedal is reverse threaded.*
2. Make sure crank bolts are tight. If loose, apply blue Loctite 242 to threads and tighten crank bolts with 8mm hex wrench.
3. If problem persists check the bottom bracket bearing cups for looseness. Tighten if necessary with a bottom bracket tool and use blue Loctite 242 on threads.
4. If knocking noise still persists contact authorized service technician for replacement of bottom bracket bearings.

SYMPTOM: Inconsistent resistance or noisy brake pad.

1. Remove fender assembly and make sure brake pad is clean.
2. Apply brake pad oil (or 3-In-One oil) to surface of brake pad.
3. Let oil soak into pad and reapply if needed until brake pad is thoroughly saturated.
4. Reinstall fender assembly.

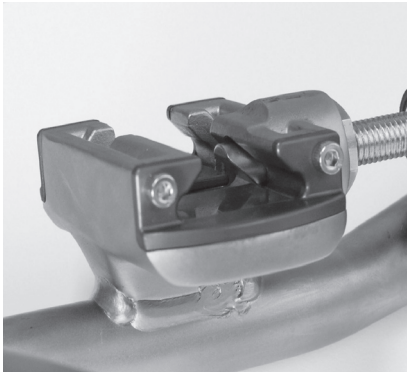
SYMPTOM: Rocking or movement from RevMaster while in use.

1. Using a 6mm hex wrench, check the attachment bolts on the front and rear stabilizers and make sure they are tight (4 bolts on each stabilizer).
   Note: *You will have to remove the stretch pad to check the rear stabilizer mounting bolts.*
2. Assure the bike is level by checking the leveling feet on the bottom of the front and rear stabilizers.

ASSEMBLY/DISASSEMBLY/ADJUSTMENT

HANDLEBAR

When the handlebar is first installed on the bike there is a slider plunger (or "pill") at the end of the adjustment handle that is held in place by shipping material. The material is pushed out of the way when the handlebar assembly is slid onto the track of the handlebar post. The adjustment handle pushes the slider plunger against the track to secure the handlebar assembly in place.



Installation

Loosen the adjustment handle on the handlebar assembly. Slide the assembly onto the track of the handlebar post and tighten the adjustment handle. Then install the handlebar track cap onto the end of the track with two (2) M4 X 10mm screws.

Removal

To remove the handlebar assembly, first remove the track end cap. Loosen the adjustment handle and slide the handlebar off the end of the track. Take care not to dislodge the slider plunger at the end of the adjustment handle.

PEDALS

Use a 15mm open end wrench or pedal wrench to install and remove pedals.

Installation

One pedal will be labeled (L) for left and the other pedal (R) for right. Also note the left pedal is reverse threaded. Carefully thread the left pedal into the left crank arm by turning counterclockwise and tighten by hand being careful not to cross the threads. With the same mindfulness tighten the right pedal into the right crank arm. Then firmly tighten down both pedals with the wrench.

Removal

Unscrew the left pedal by turning it clockwise with a wrench. Unscrew the right pedal by turning it counterclockwise.

CRANK ARMS

Use a 8mm hex wrench to install/remove crank bolts & use a Park CCP-2 or similar crank arm puller to remove crank arms.

REMOVAL

Left crank - Unscrew the crank bolt with 8mm hex wrench. Thread crank puller into the threads of crank arm being careful not to cross the threads and tighten by hand. Turn the handle of crank puller clock-wise until crank arm is removed.

Right crank - Remove the belt cover and drive belt. Unscrew the crank bolt with 8mm hex wrench and follow same directions as Left crank.

Installation

Lubricate the taper of the spindle with a small amount of multi-purpose grease. Slide the crank arms onto the spindle assuring they are rotated 180 degrees from each other. Screw in crank bolts (new bolts are factory coated with Loctite or if needed use medium 242 strength Loctite) and firmly tighten. Recheck periodically.

BELT COVER

Use a 3mm hex wrench & 5mm hex wrench to install/remove belt cover.

Removal

Remove the three 3mm screws from left side (non-drive side) of the bike. Rotate the right crank arm to the 10 o'clock position. Remove the four 5mm screws from the right side (drive side) and remove belt cover. Please note: Always use caution around drive belt when cover is removed.

Installation

Rotate the right crank arm to the 10 o'clock position. Pass the right crank arm through hole of belt cover and line up screw holes of belt cover with threaded holes in frame of bike. Insert and gently snug down each of the 5mm screws from the right side and each of the 3mm screws from the left side.

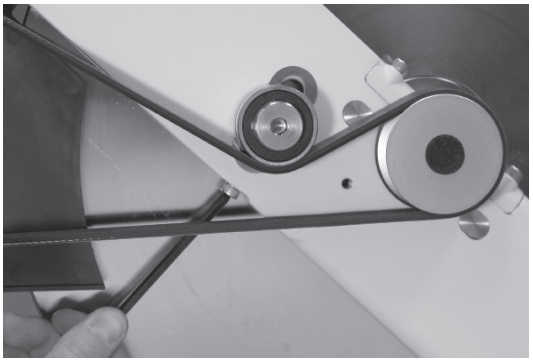
DRIVE BELT/DRIVE BELT TENSION

Use a 5mm hex wrench (long T-handle works best) & 8mm hex wrench to remove/install or adjust drive belt.

Please use caution around drive belt when installing, removing or adjusting belt.

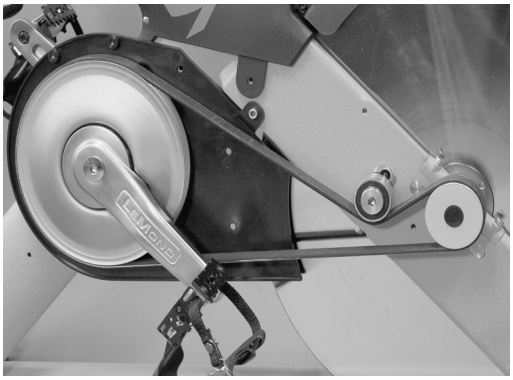
Removal

Remove belt cover. Loosen the shoulder bolt of idler bearing assembly ¼ turn with a 8mm hex wrench. Loosen the tension screw (M6 x 60) with a 5mm hex wrench until the idler bearings can be pushed to the top of the slot in frame and bearings are loose enough to allow you to remove the drive belt from the pulleys.



IInstallation

Wrap the drive belt around the front flywheel pulley. Pass the top of the belt under the tensioner bearings (tensioner bearing assembly should be loose and able to move freely in slot) and over the top of the rear crank pulley. Continue feeding the belt onto the crank pulley while working your way counterclockwise. If the belt is too tight near the bottom to slide over the pulley, keep tension on the belt and slowly rotate the right crank arm counterclockwise to walk the rest of the drive belt onto the pulley. Check to make sure the belt is centered on both pulleys and the upper portion of the belt is under the tensioner bearings. Also check that the idler spacer located directly behind the idler bearings is still sitting on the shoulder bolt with the bearings.



To tension the belt, tighten the tension screw (with 5mm hex wrench) so the idler bearings begin to put downward pressure on the belt. Test the belt tension intermittently while tightening the tension screw by getting on the bike and standing up on the pedals. With the cranks parallel to the floor slowly rock back and then give a quick downward thrust with your forward foot. If the belt slips, continue to tighten, and repeat the process of testing and tightening until no slippage is detected. Also note that a heavier person or one who uses very heavy resistance may need more tension on the belt. When the proper belt tension is reached firmly tighten the shoulder bolt. If the tensioner bearings sit at an angle and are not perpendicular to the frame after tightening, check to make sure the idler spacer that sits directly behind the idler bearings is still sitting on the shoulder bolt with the bearings and has not fallen off. Reinstall the belt cover.

BOTTOM BRACKET BEARING ASSEMBLY

Use a Park BBT-22 or similar bottom bracket tool & blue medium 242 strength Loctite.

Removal

Remove the belt cover, drive belt and crank arms. Then remove the left bearing cup using the bottom bracket tool by turning the cup counterclockwise. Loosen the right cup (reverse threaded) by turning the cup clockwise until you are able to remove the right cup with the remainder of the cartridge assembly from the frame.

Remove Leftside

Remove Rightside

Installation

Clean the bottom bracket threads in the frame. Set the left cup of the bearing assembly aside for now. Apply a few drops of medium strength Loctite to the right bearing cup and insert the cartridge assembly into the bottom bracket from the right side (drive side). Carefully screw the right cup into the frame with your hand by turning the cup counterclockwise (right cup is reverse threaded) while being cautious not to cross the threads. Firmly tighten the right cup with the bottom bracket tool. Apply a few drops of Loctite to the left bearing cup. Carefully screw the left cup into the frame with your hand by turning clockwise while again being cautious not to cross the threads, and torque to 175 inch/lbs. If you do not have a torque wrench, tighten the cup, but stop and twist the spindle with your hand periodically as you go to assure that the cup is fully threaded into the frame but loose enough to allow the spindle to rotate freely. If the rotation of the spindle feels rough or clunky loosen the cup and test again. Reinstall the crank arms, drive belt and belt cover. Allow loctite to dry for 24 Hours before using the unit.

Use Loctite 242

FLYWHEEL

Use a 5mm hex wrench to remove flywheel assembly & 4mm hex wrench to remove flywheel hub assembly from flywheel. Also use medium 242 strength Loctite.

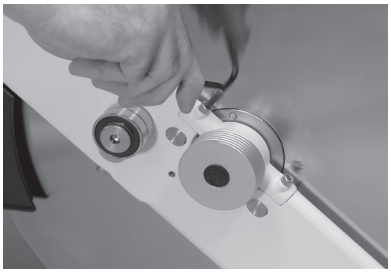
Removal

Remove belt cover, drive belt and fender assembly and raise handlebar post to a higher position. It is also helpful to raise the brake rod up and wrap a piece of electrical tape around the brake shaft, just above the brake nut to prevent the bottom of the rod from getting in the way. Using a 5mm hex wrench, remove the two pillow block screws (M6 x 35) from right pillow block and the two pillow block screws (M6 x 35) from the left pillow block. Before removing the flywheel assembly, please note it is heavy and weights 48lbs. Carefully lift the flywheel so the pillow blocks unseat themselves from the frame and slowly move the flywheel forward out of the frame. Be careful not to scratch or dent the surface of the flywheel. If needed, a rag can be put under the flywheel when removing to provide a softer surface.

REMOVING AND REPLACING HUB ASSEMBLY IN FLYWHEEL

If the flywheel bearings or pulley are damaged a new flywheel hub assembly will need to be installed.

Pull the left pillow block off the bearings after flywheel is removed from bike. Remove the three screws (M6 x 16) from the left side of the flywheel with a 4mm hex wrench. These screws hold the hub assembly to the flywheel. Once hub assembly is removed apply medium strength Loctite to the three M6 x 16 screws. Insert the new hub assembly in the flywheel and install the three M6 x 16 screws with Loctite. Firmly tighten screws and place left pillow block back on bearings. Flywheel assembly is now ready to be installed on the bike.



Installation

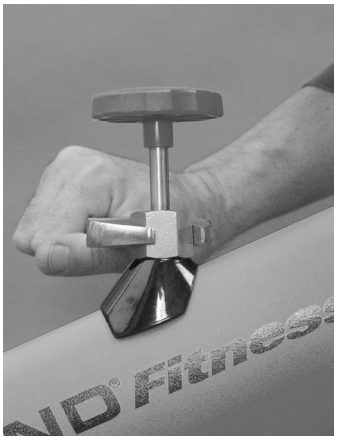
Place the pillow block nuts back in the frame. The flanged nuts need to be inserted on the left side and the nuts with no flange need to be inserted on the right side (Note: These cannot be reversed since a flanged nut on the right side will rub on the drive belt). Rotate the pillow blocks so the tops of both are facing up and are parallel with each other (if one or both of the pillow blocks rotates during the install and is inserted into the cutaway upside down the flywheel will sit cockeyed and/or up too high). Carefully lift the flywheel assembly back into the frame and lower the pillow blocks into the cutaways in the frame. Once the flywheel sits securely in the frame, apply Loctite to the pillow block screws. Insert the screws through the pillow blocks, start tightening by hand and then firmly tighten with a 5mm hex wrench. Reinstall the fender assembly, drive belt and belt cover. Ride the bike to test.

BRAKE ASSEMBLY

Use an adjustable crescent wrench to remove/install brake assembly.

Removal

Turn the brake rod counterclockwise to loosen the tension. Loosen the brake frame nut with a crescent wrench. Make sure the two flat edges of the plastic nut on the very bottom of the rod are facing the front and rear of the bike. The flat surface of the plastic nut will then line up with the flat surface inside the tube. Pull up on the brake assembly and remove from the frame.



Installation

Check that the brake rod nut located between the two springs is threaded on the lower portion of the top set of threads. Line up the flat surface of the brake rod nut with the flat surface of the plastic nut on the bottom of the brake rod. Insert the brake rod assembly into the frame with the flat surfaces of both nuts facing the back of the bike so they meet the flat surface inside the tube. Tighten down the brake frame nut.

FENDER ASSEMBLY

A 5mm hex wrench & 4mm hex wrench will be used simultaneously. Also use medium 242 strength Loctite.

Removal

Raise the handlebar post to a higher position to get it out of the way. Locate the bolt at the rear of the fender and remove with 5mm and 4mm hex wrenches. Hold the brake rod up and pull the fender assembly from the bike.

BRAKE PAD REMOVAL/INSTALL

Use 3mm hex wrench & brake pad oil (or 3-In-One Multi-purpose oil).

With the fender assembly off the bike use a 3mm hex wrench to remove the two screws that hold the brake pad to the fender. Remove the pad and scrape away any of the foam padding still stuck to the fender. Peel off the backing of the foam on the new brake pad to expose the sticky surface of the foam. Screw the new brake pad onto the fender with the foam side facing the fender and press across the length of the pad so the foam sticks to the fender. Coat the surface of the brake pad with brake pad oil and allow it to soak into the pad. Repeat the process 4-5 times or until the pad is saturated with oil (but not dripping). The fender assembly is now ready to be installed on bike.

Installation

Apply Loctite to the male portion of the bolt that holds the fender to the frame. Lift up on the brake rod and slide the fender assembly over the top of the flywheel and line the holes in the back of the fender with the hole in the frame. Insert the female section of the bolt from either side, through the hole in the fender and into the hole in the frame. Then insert the male portion of the bolt from the other side and thread the two parts of the bolt into each other. Gently snug the bolt down with hex wrenches but be careful not to over tighten or the bolt will break. Ride and test bike with resistance.

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ADJUSTMENT HANDLES (HANDLEBAR/SEAT POST HEIGHT ADJUSTMENT HANDLES)

Use 6mm hex wrench & 3mm hex wrench to adjust the handles.

Adjustment

Handles need to be unlocked to adjust the tightness of the handle against the post. Lift up on the handle to unlock and lower the post until it bottoms out. If adjusting the seat post, first remove the seat with the seat slider from post so the fore/aft adjustment handle is out of the way. Loosen the screw on right side of bike one turn with 3mm hex wrench. Push in on this screw so the 6mm screw (Post Handle Pin) on the other side disengages from the teeth in the indicator plate.

To increase the handle pressure on the post, rotate the 6mm screw towards the (+) sign by 1 tooth while lifting up on the handle. Then push the screw in so it locks into the teeth on the indicator plate and let go of the handle. Tighten the 3mm screw on the right side of the bike and raise the post up and test. Repeat the process if more pressure is needed.

To decrease the handle pressure on the post, rotate the 6mm screw towards the (-) sign by 1 tooth while lifting up on the handle. Then push the screw in so it locks into the teeth on the indicator plate and let go of the handle. Tighten the 3mm screw on the right side of the bike and raise the post up and test. Repeat the process if the handle is hard to lock down and less pressure is needed.

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